

Abstract

An external cavity type semiconductor laser that has a larger output and a more excellent single mode characteristic than a conventional external cavity type semiconductor laser is provided. The external cavity type semiconductor laser has a laser diode 11, a window glass 16, a grating, and a lens. The external cavity type semiconductor laser has several modifications over the conventional one. A first modification is in that the window glass 16 is inclined to a beam emission surface 19 of a laser diode 11 for a predetermined angle. A second modification is in that arrangements of the laser diode 11 and so forth are adjusted so that an S wave reaches the grating. A third modification is in that when an output power of the laser diode 11 is 45 mW or less, a kink is suppressed. The other modifications are in that a reflectance of a beam emission surface of the laser diode 11, a numerical aperture of the lens, an external cavity length, and a reflectance of a first order beam of the grating are optimized to their proper values.